Owner's Manual

1838

PC Programmable Multi-Door Access Controller

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P/N 1838-065 REV L, 3/10
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Use this manual with the following models only.

Model 1838 Access Controller, REV F or Higher

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IMPORTANT NOTICE

FCC - UNITED STATES

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules and Regulations. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Registration Number: **DUF6VT-12874-OT-T**

DOC - CANADA

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the users satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable means of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

DOC Registration Number: **1736 4528 A**

Notice:

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the sum of the load numbers of all the devices does not exceed 100.

Notice:

DoorKing does not provide a power transformer on units sold into Canada. Use only transformers that are CSA listed to power this entry system. The model 1838 requires a 16.5-volt, 20 VA transformer.

Listing:

This product has been tested to and found to be in compliance with the U.L 294 Safety Standard by Intertek Testing Services NA Inc. (a Nationally Recognized Testing Laboratory) and is ETL listed.

IMPORTANT INFORMATION

- Prior to beginning the installation of the access control system, we suggest that you become familiar with the instructions, illustrations, and wiring guidelines in this manual. This will help insure that you installation is performed in an efficient and professional manner.
- The proper installation of the access controller is an extremely important and integral part of the overall access control system. Check all local building ordinances and building codes prior to installing this system. Be sure your installation is in compliance with local codes.
- When used to control a door or pedestrian gate, try to locate the access controller as near as possible to the entry point. The unit should be mounted on a rigid wall to prevent excessive shock and vibration from closing doors or gates. Continuous vibration and shock from slamming doors or spring-loaded pedestrian gates will damage the circuit board. **Under no circumstances should the unit be mounted directly to a moving door or gate**.
- **ADA mounting requirements for door control.** The mounting of the access control device (card reader, keypad, etc.) shall be in such a way that it is readily usable by a person sitting in a wheelchair with an approximate eye level of 45 inches and shall comply with the following requirements:
    1. If the clear floor space allows only forward approach to the device, the maximum high forward reach allowed is 48 inches above grade to the top of a keypad.
    2. If the high forward reach to the system is over an obstruction of greater than 20 inches but less than 25 inches, the maximum high forward reach allowed is 44 inches above grade to the top of a keypad.
    3. If the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach shall be 54 inches above grade to the top of a keypad.
    4. If the high side reach is over an obstruction of 24 inches or less, the maximum high side reach allowed is 46 inches above grade to the top of a keypad.
- **When used to control a vehicular gate with an automatic gate operator, the access control device (card reader, keypad, etc.) must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the device and/or touch the gate or gate operator at the same time**.
- Be sure that access control devices are installed so that they are not directly in the traffic lane. Gooseneck mounting post and kiosks work well for these type systems. When planning where to locate the access device, take into consideration traffic lane layouts, turn around lanes for rejected access, conduit runs, power availability, etc.
- This access system controller contains a number of static sensitive components that can be damaged or destroyed by static discharges during installation or use. Discharge any static prior to removing the circuit board by touching a proper ground device.
- **Instruct the end user to read and follow these instructions. Instruct the end user to never let children play with or operate any access control device. This Owner's Manual is the property of the end user and must be left with them when installation is complete**.

FEATURES

- Can provide service for up to 3000 system users.
- Can store up to 8000 card, transmitter or digital PIN codes.
- Can interface with DKS Remote Call Stations to provide telephone communication and entry control (P/N 1838-120, 1838-121).
- System can be programmed with a PC by modem, RS-232 (requires 1818-040 RS-232 cable), via the internet using DKS Modem Server, via the internet using DKS Internet Server or by a LAN connection (LAN and internet server option requires 1830-175 TCP/IP kit). Programming via the DKS internet server or LAN requires Remote Account Manager Software V 6.2.
- Transaction buffer stores the last 8000 events and has its own backup power source to retain memory during power outages.
- View LIVE Transactions.
- 31-security levels total (security level 00 always denies entry, security level 01 always admits entry), with 29 programmable security levels, each with four time zones allows you to control and restrict user access as needed.
- Programmable holiday schedule.
- Facility codes can be enabled or disabled. Store up to 10 different facility codes.
- True Anti-Pass Back feature. Requires APB chip set.
- Two internal relays allow the system to control two entry points.
- System can be expanded to control up to 16 entry points. Tracker expansion boards are required (one for each additional entry point) and are not included with the system. Tracker boards also provide output for door ajar and forced entry alarms.
- Optional elevator control board(s) can control up to four elevators with each elevator serving up to 64 floors.
- System will interface with selected models of DKS DoorKing vehicular gate operators to provide gate operator information and data (requires a Tracker board for each gate operator that is to send data to the system).

SECTION 1 - INSTALLATION

If you are going to use a telephone line with this controller, order it at least two weeks prior to the planned installation date. This will assure that a phone line is available when the unit is installed. The telephone company will require the following information from you:

Type:	Touch Tone, Loop Start
Ringer Equivalence:	0.0 A
Jack Type:	RJ11C
FCC Registration (US):	DUF6VT-12874-OT-T
DOC (Canada):	1736 4528 A
Electrical Listing:	Complies with U.L. 294 - ETL Listed

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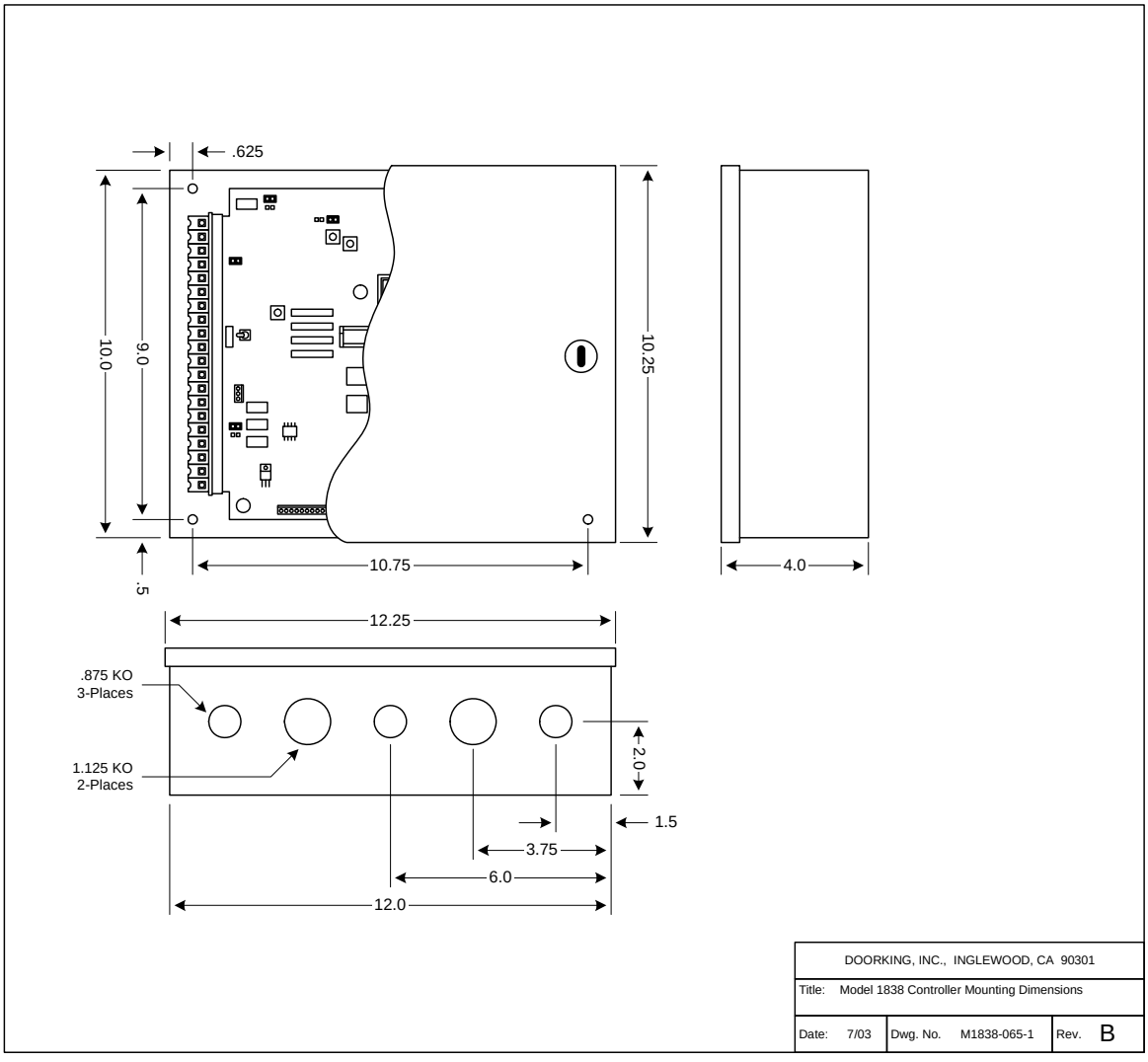
1.1 Installation Guidelines

1. Open the cabinet of the access controller and disconnect the keypad ribbon cable from the main circuit board.
2. Remove the 6-32 x 1/2 round head screws from the right side of the circuit board.
3. Remove the circuit board by gently pulling it out of the main terminal edge connector. **CAUTION** - the circuit board contains static sensitive components. Discharge any static electricity from your hands by touching a proper ground device before removing the circuit board. Place the circuit board where it will not be damaged.
4. Mount the access controller cabinet using 8-32 screws. The access controller has four 8-32 blind pems installed in each corner. See page 10.
5. Route wiring into the cabinet. Do not apply any power at this time.
6. Clean out the cabinet. Be sure that all dirt, metal and/or wood debris is removed from the cabinet and that the terminal strip edge connector is clean and free of any loose particles.
7. Re-install the circuit board into the cabinet by gently pushing the circuit board terminals into the edge connector. **CAUTION** - the circuit board contains static sensitive components. Discharge any static electricity from your hands by touching a proper ground device before removing the circuit board.
8. Secure the circuit board to the cabinet using the screws removed in step 2.
9. Plug the keypad ribbon cable into the circuit board. The cable points to the left.

WARNING! If this access control system is used to control a vehicular gate with an automatic gate operator, the access control device must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the access control device and touch the gate or gate operator at the same time.

1.1.1 Mount Information

If used to control a door or pedestrian gate, try to locate the access controller as near as possible to the entry point. The unit should be mounted on a rigid wall to prevent excessive shock and vibration from closing doors or gates. Continuous vibration and shock from slamming doors or spring-loaded pedestrian gates will damage the circuit board. **Under no circumstances should the unit be mounted directly to a moving door or gate.**



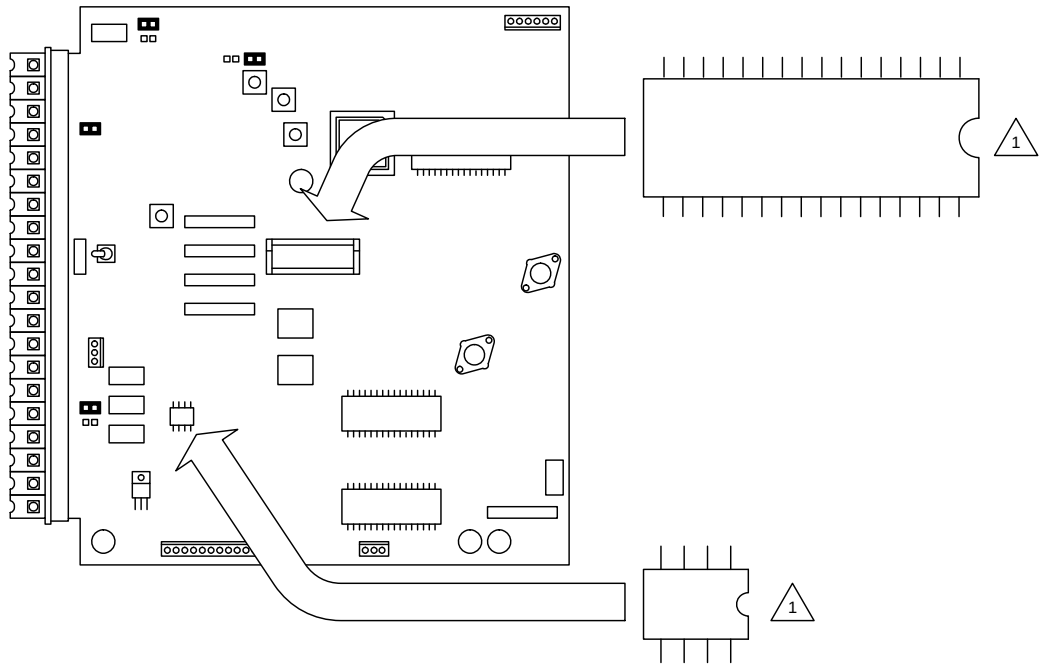
1.2 Memory Chip Installation

The access controller is shipped with two memory chips packaged in a separate box inside the shipping container. The memory chips must be installed for the system to operate.

CAUTION!! Do not install the memory chips with power to the system turned on. Attempting to install the memory chips with power on will irrevocably damage the chips. M**emory chips are a static sensitive component. Discharge any static electricity from your hands by touching a proper ground device before removing the control board. Handle the memory chips with care**.

1. The large memory chip socket is colored black and is located in the center of the circuit board. Be sure that the handle is in the un-locked position (pointing up). Be sure that power to the telephone entry system is off.
2. Carefully insert the memory chip into the socket. The small half circular indentation on the chip must be to the right. CAUTION: Installing the memory chip backwards will cause permanent damage to the chip. Be sure that the memory chip is seated correctly in the socket, then move the lever to the locked position.
3. Install the small memory chip in the socket located at the bottom of the circuit board. The small circular indentation on the chip must be to the right. CAUTION: Installing the memory chip backwards will cause permanent damage to the chip. Be sure that the memory chip is seated correctly in the socket.

1838 Series Circuit Boards Memory Chip Location



1 Dimple on chip must be towards the right!

DOORKING, INC., INGLEWOOD, CA 90301		
Title: 1838 Series Memory Chip Location		
Date: 4/03	Dwg. No. M1838-065-2	Rev. A

SECTION 2 – WIRING

Prior to installing wiring to the access control system, we suggest that you become familiar with the instructions, illustrations, and wiring guidelines in this manual. This will help insure that you installation is performed in an efficient and professional manner.

The wiring of the access control panel is an extremely important and integral part of the overall access control system. Use proper wire for the communication line, power wires, and be sure that the system is properly grounded. Check all local building ordinances and building codes prior to installing this system. Be sure your installation is in compliance with local codes.

WARNING: If this access control system is used to control a vehicular gate with an automatic gate operator, the access devices (card reader, keypad, etc.) must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that the user cannot come into contact with the gate or gate operator when using the entry device. If the entry device has been installed closer to the automated vehicular gate, do not proceed with any wiring until the device has been moved and re-installed so that it is in compliance with these instructions.

Use only the supplied transformers (or U.L. listed equivalent) to power the access control system and any wiegand input devices (16.5 VAC, 20 VA). Do not power any other devices (electric strikes, magnetic locks, etc.) from these power transformers. For wire runs up to 100 feet, use 18 AWG, 600 volt insulated wire. For wire runs up to 200 feet, use 16 AWG, 600 volt insulated wire. Power wires are susceptible to noise and hum pickup; therefore it is preferable that you keep power wire runs as short as possible.

This access control system contains a number of static sensitive components that can be damaged or destroyed by static discharges during installation or use. Discharge any static prior to removing the circuit board from the lobby panel by touching a proper ground device.

If Tracker expansion boards are being used with this system, refer to the Tracker Installation and Wiring manual that came with the Tracker expansion boards, for detailed information on wiring Tracker boards to the PC programmable access control system.

If Elevator Control is used with this system, refer to the Elevator Control Installation and Wiring manual for detailed information on wiring the elevator control boards to this system and to the elevator push button control panel.

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2.1 WIRING GUIDELINES

Do not run high voltage (115 V) power lines and communication lines in the same conduit. These should be in separate conduits at least six (6) inches apart. **Be sure that all phone line wiring is twisted and completely isolated from ground**.

Use only the supplied 16.5 VAC (or U.L. listed equivalent) to power the access control system. **Do not power any other devices (electric strikes, magnetic locks, lights, etc.) from this transformer**. Do not run 16 VAC access control system power lines over 200 feet. It is advisable to keep these wires as short as possible. **Use 18 AWG wire for wire runs up to 100 feet, and 16 AWG wire for wire runs up to 200 feet**. Install a low voltage surge suppresser (DoorKing p/n 1878-010 or equivalent) to help protect the entry system from power surges.

Use Belden 9418 (4-conductor), Belden 9931 (6-conductor) or equivalent for all wiegand device wiring. Do not use twisted pair type wire with wiegand format. Float the shield at the wiegand device. Do not connect the shield to the wiegand device common. **Wiegand wire runs are 500-feet maximum.**

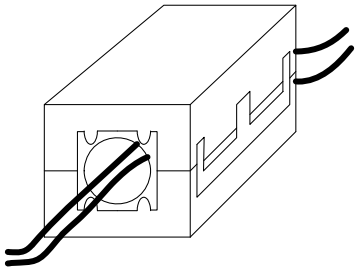
A 12 volt .8 amp hour gel-cell battery (DoorKing p/n 1801-008) can be installed in the system to provide stand-by power in the event of a power outage. Two batteries are required, one for the system power and one for the auxiliary terminal power.

Proper grounding of this system is a requirement. The use of surge suppressers can significantly reduce the chance of component failure because of static charges or surges. To be effective, ground connections should be made with a minimum 12 AWG, 600 volt insulated wire to a ground point within 10 feet of the access control system. The ground point must be at an electrical panel, a metallic cold water pipe that runs in the earth, or a stainless steel grounding rod driven at least ten (10) feet into the soil.

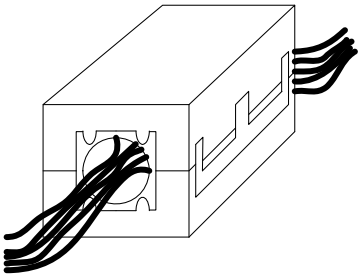
Be sure that you use proper wire that has an insulation rated for an underground environment. All wires should be placed in conduits. Proper pre-planning can greatly ease the installation and wiring of this system. Always check with the local building code to determine the type of wire required in your municipality.

The 1838 is shipped with two (2) Ferrite Filters. One is installed on the 16 VAC power wires to the main circuit board (terminals 19-20). The second is installed and around the wires connected to the Auxiliary Terminal strip.

- To install the ferrite filter, simply snap the filter open, place the wires in the circular core, then snap the filter closed.



16 VAC POWER



AUX TERMINAL WIRES

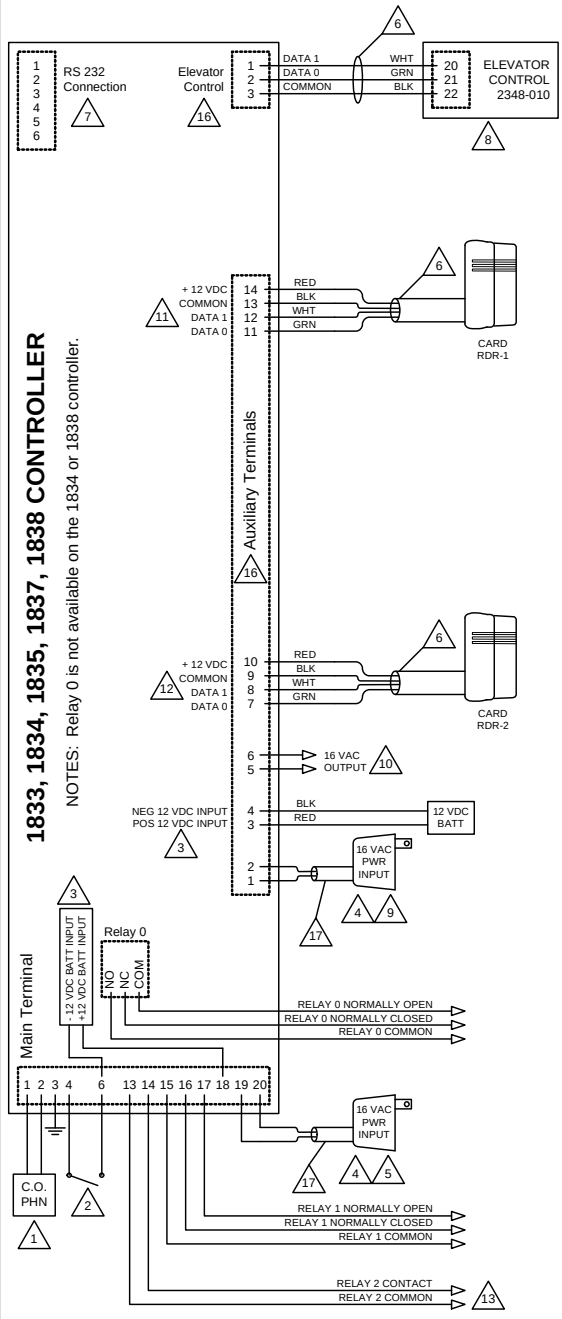
2.2 TERMINAL DESCRIPTIONS

MAIN	DESCRIPTION
1	Phone Line Connection – 800 ft. maximum with 24 AWG wire; 1600 ft. maximum with 22 AWG wire.
2	Phone Line Connection – 800 ft. maximum with 24 AWG wire; 1600 ft. maximum with 22 AWG wire.
3	Earth Ground Only.
4	Switch Input. A closure between terminals 4 and 6 will cause the designated relay(s) to activate for the programmed strike time. The Postal Switch is connected here.
5	Microphone Input.
6	Common for switch input, A and Z input, speaker, microphone and battery negative.
7	Speaker Output.
8	Not Used.
9	Not Used.
10	Not Used.
11	Z Input. A closure between terminals 11 and 6 will dial the phone number stored under directory code 1, 01, 001 or 0001.
12	A Input. A closure between terminals 12 and 6 will dial the phone number stored under directory code 0, 00, 000 or 0000.
13	Relay 2 Common – 30 Volt, 3 Amp maximum.
14	Relay 2 Contact – 30 Volt, 3 Amp maximum.
15	Relay 1 Common – 30 Volt, 3 Amp maximum.
16	Relay 1 Normally Closed – 30 Volt, 3 Amp maximum.
17	Relay 1 Normally Open – 30 Volt, 3 Amp maximum.
18	Microphone Power and Back-up Battery POSITIVE (connect negative to terminal 6).
19	16 VAC Input Power – 20 VA minimum. 100 ft. maximum with 18 AWG wire; 200 ft. maximum with 16 AWG wire.
20	16 VAC Input Power – 20 VA minimum. 100 ft. maximum with 18 AWG wire; 200 ft. maximum with 16 AWG wire.
AUXILIARY	**DESCRIPTION**
1	16 VAC Input Power – 20 VA.
2	16 VAC Input Power – 20 VA.
3	Back-up Battery POSITIVE.
4	Back-up Battery NEGATIVE.
5	16 VAC Output.
6	16 VAC Output.
7	DATA 0 – Card Reader 2.
8	DATA 1 – Card Reader 2.
9	COMMON – Card Reader 2.
10	+12 VDC Power – Card Reader 2.
11	DATA 0 – Card Reader 1.
12	DATA 1 – Card Reader 1.
13	COMMON – Card Reader 1.
14	+12 VDC Power – Card Reader 1.
ELEVATOR	**DESCRIPTION**
1	DATA 1 – connect to Elevator Control Board (2348-010) Terminal 20.
2	DATA 0 – connect to Elevator Control Board (2348-010) Terminal 21.
3	COMMON – connect to Elevator Control Board (2348-010) Terminal 22.

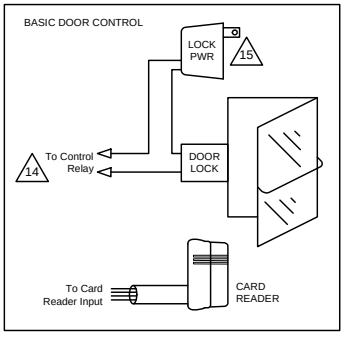
2.3 WIRING DETAIL

2.3.1 Controller Only

30 Series Controller Detail Wiring



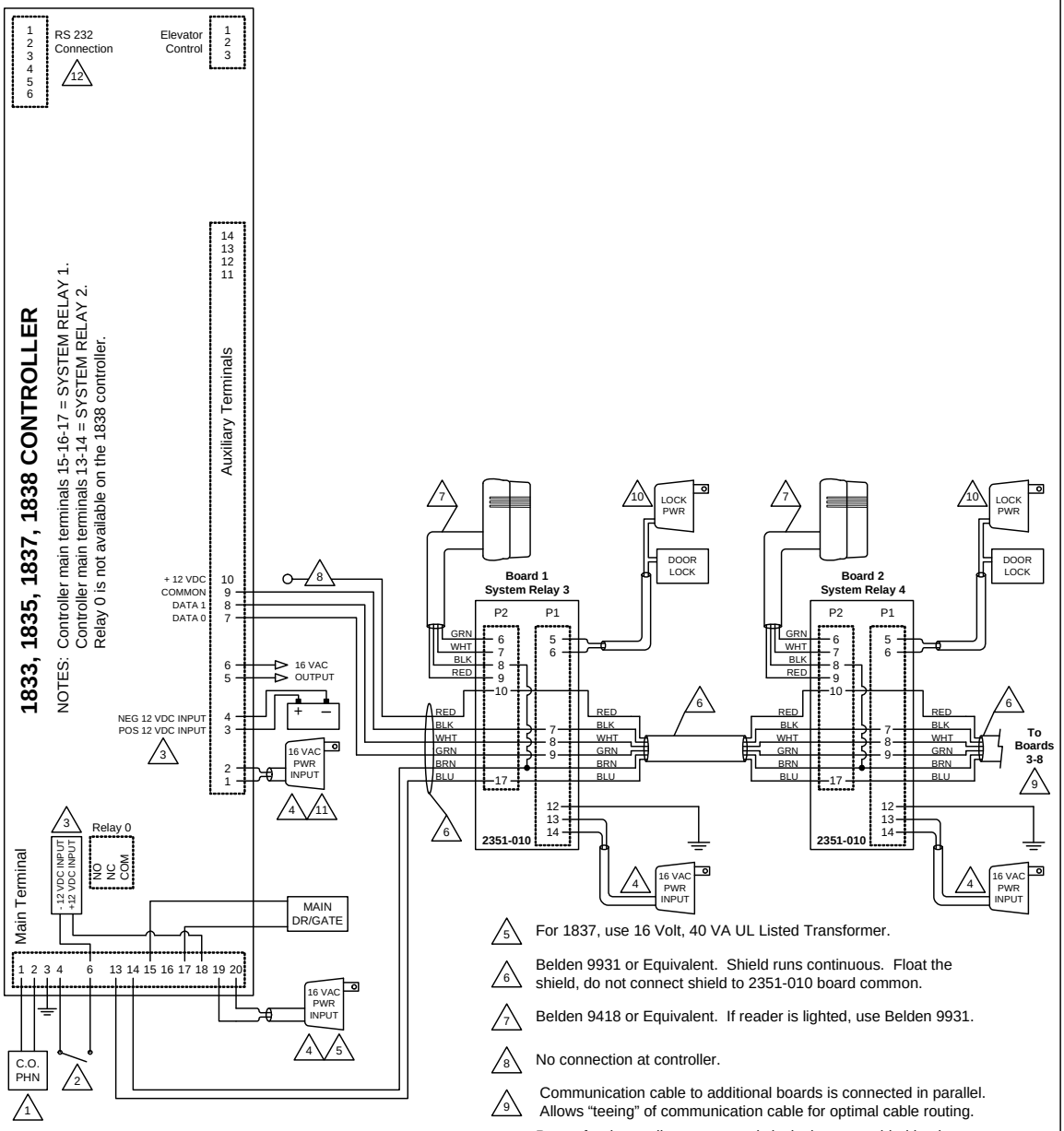
1. Central Office phone line - touch tone, loop start.
2. A switch closure across terminals 4 & 6 will activate relay 1 for its programmed strike time.
3. Battery Backup - separate batteries required for phone system and weigand terminals.
4. 16 Volt, 20 VA UL Listed Transformer.
5. For 1837, use 16 Volt, 40 VA UL Listed Transformer.
6. Belden 9418 or Equivalent. If card reader is lighted, Belden 9931 can be used to provide extra wires for light power.
7. See Dwg No. M1835-065-5 for detail.
8. See Elevator Control Board Manual 2348-065 for detail.
9. Aux power transformer must be connected. Otherwise, RS232, elevator control and weigand inputs will not function.
10. 16 VAC output can be used to power lights on card readers that have additional lighting for outdoor use.
11. Card reader connected to these terminals will operate Relay 1 for its programmed strike time.
12. Card reader connected to these terminals will operate Relay 2 for its programmed strike time.
13. Relay 2 contact is set N.O or N.C. with a jumper on the circuit board.
14. Electric strikes are wired to Normally Open (N.O.) contacts; magnetic locks are wired to the Normally Closed (N.C.) contacts.
15. Power for electric strikes or magnetic locks is not provided by the system. Use a separate UL listed power supply.
16. Auxiliary and Elevator Control terminals are not available on the 1834 controller.
17. Use 18 AWG wire for runs up to 100 Ft. Use 16 AWG wire for runs up to 200 Ft.



DOORKING, INC., INGLEWOOD, CA 90301		
Title: Detail Wiring - 30 Series Controller		
Date: 7/04	Dwg. No. M1835-065-2	Rev. B

2.3.2 Controller & Expansion Boards 1-8

30 Series Controller to 2351-010 Expansion Boards 1-8
Detail Wiring

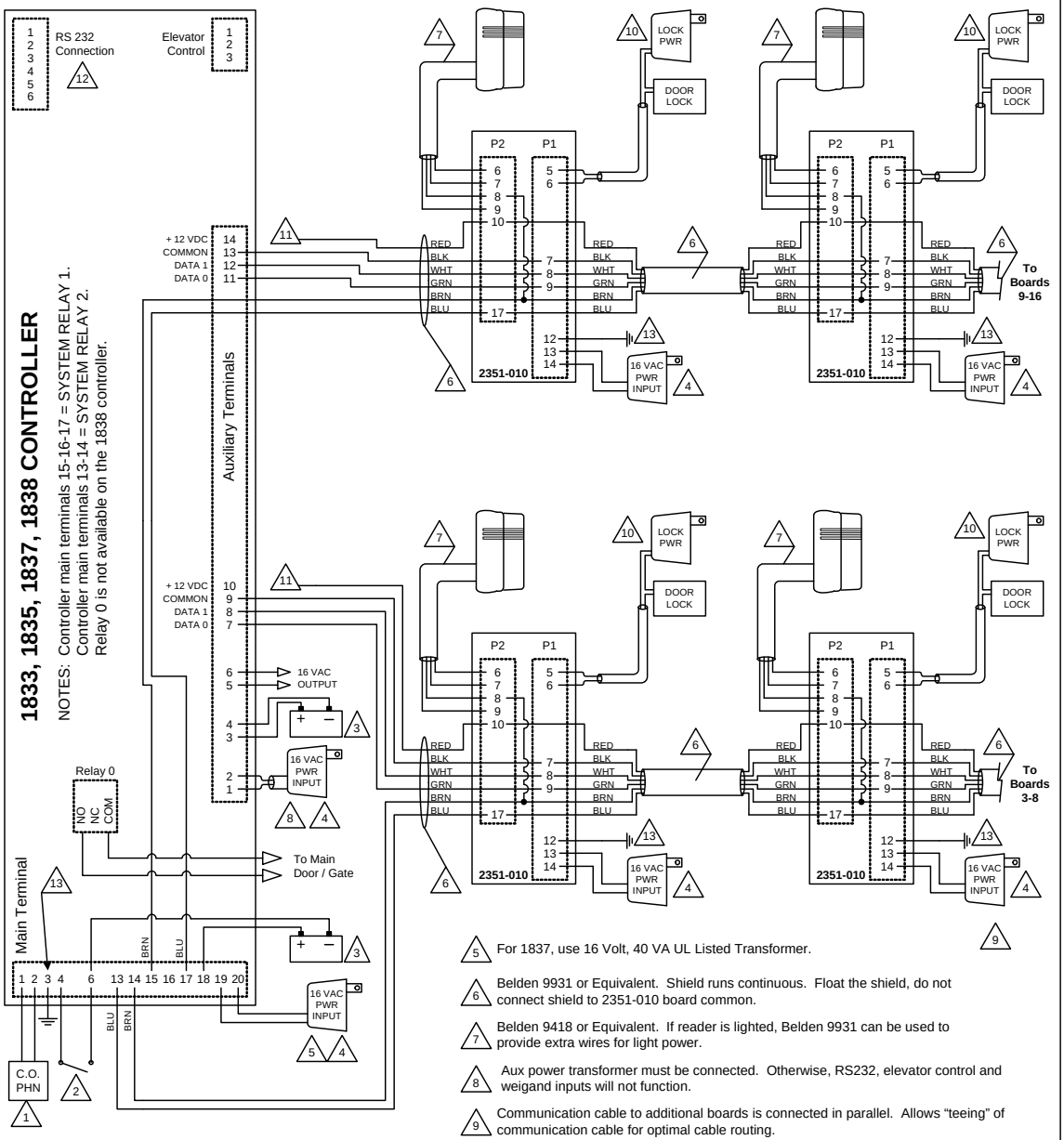


1. Central Office phone line - touch tone, loop start.
2. A switch closure across terminals 4 & 6 will activate relay 1 for its programmed strike time.
3. Battery Backup - separate batteries required for phone system and weigand terminals.
4. 16 Volt, 20 VA UL Listed Transformer.
5. For 1837, use 16 Volt, 40 VA UL Listed Transformer.
6. Belden 9931 or Equivalent. Shield runs continuous. Float the shield, do not connect shield to 2351-010 board common.
7. Belden 9418 or Equivalent. If reader is lighted, use Belden 9931.
8. No connection at controller.
9. Communication cable to additional boards is connected in parallel. Allows "teeing" of communication cable for optimal cable routing.
10. Power for door strikes or magnetic locks is not provided by the system. It must be provided by an external power supply.
11. Aux power transformer must be connected. Otherwise, RS232, elevator control and weigand inputs will not function.
12. See Dwg No. M1835-065-5 for detail.

DOORKING, INC., INGLEWOOD, CA 90301			
Title: Detail Wiring - 30 Series Controller to 2351-010 Expansion Boards 1-8			
Date: 7/04	Dwg. No. M1835-065-3	Rev.	B

2.3.3 Controller & Expansion Boards 1-16

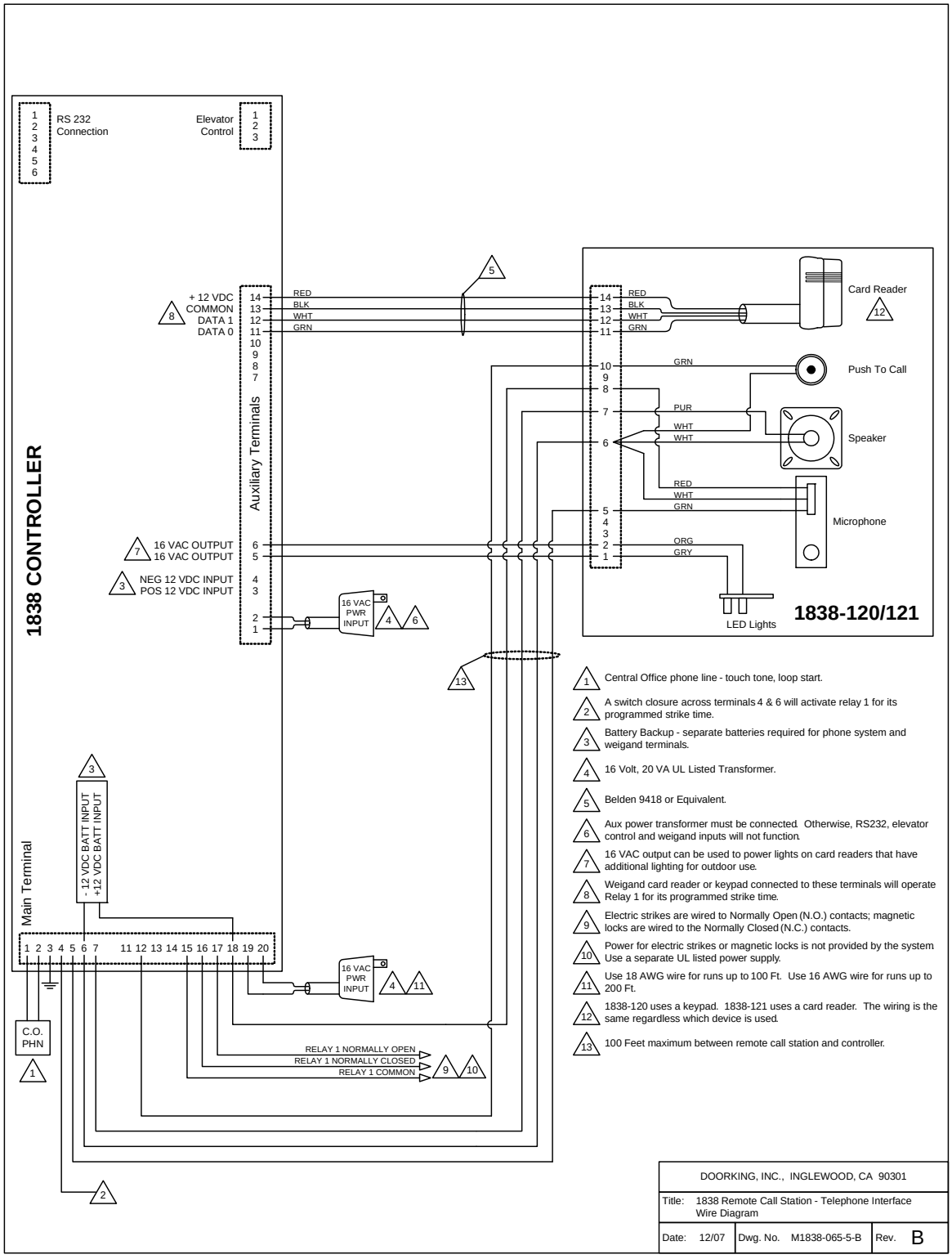
30 Series Controller to 2351-010 Expansion Boards 1-16
Detail Wiring



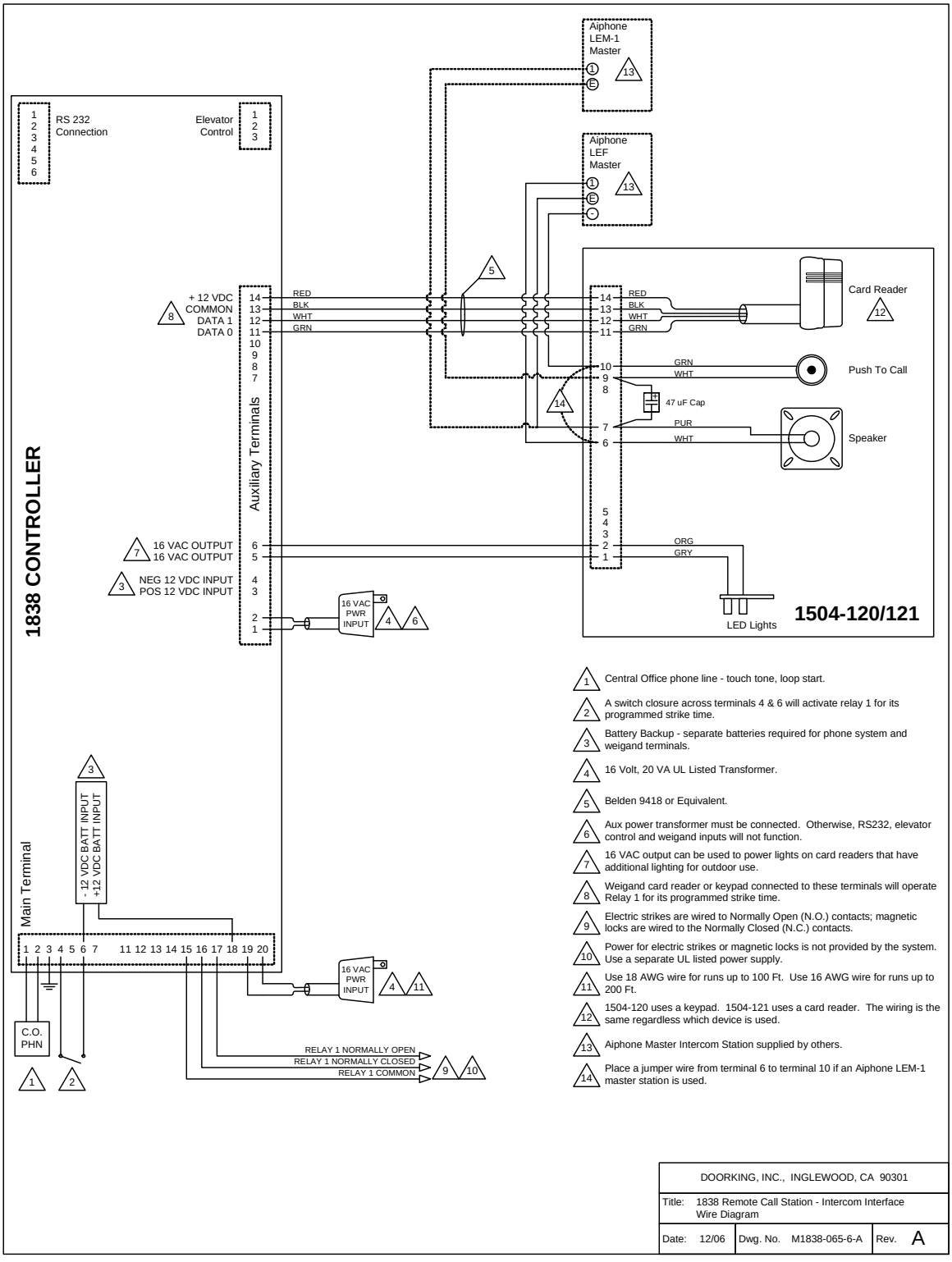
1. Central Office phone line - touch tone, loop start.
2. A switch closure across terminals 4 & 6 will activate relay 1 for its programmed strike time.
3. Battery Backup - separate batteries required for phone system and weigand terminals.
4. 16 Volt, 20 VA UL Listed Transformer.
5. For 1837, use 16 Volt, 40 VA UL Listed Transformer.
6. Belden 9931 or Equivalent. Shield runs continuous. Float the shield, do not connect shield to 2351-010 board common.
7. Belden 9418 or Equivalent. If reader is lighted, Belden 9931 can be used to provide extra wires for light power.
8. Aux power transformer must be connected. Otherwise, RS232, elevator control and weigand inputs will not function.
9. Communication cable to additional boards is connected in parallel. Allows "teeing" of communication cable for optimal cable routing.
10. Power for door strikes or magnetic locks is not provided by the system. It must be provided by an external power supply.
11. No connection at controller.
12. See Dwg No. M1835-065-5 for detail.
13. EARTH Ground.

DOORKING, INC., INGLEWOOD, CA 90301		
Title: Detail Wiring - 30 Series Controller to 2351-010 Expansion Boards 1-16		
Date: 7/04	Dwg. No. M1835-065-4	Rev. B

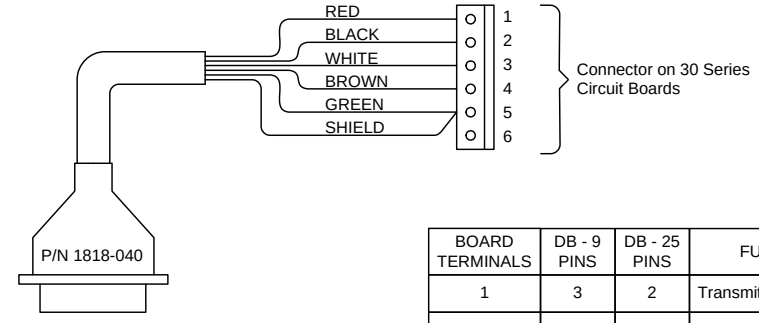
2.3.4 Controller and 1838-120 & 121 Remote Call Stations



2.3.5 Controller and 1504-120 & 121 Remote Call Stations



2.3.6 RS-232 Cable Connection



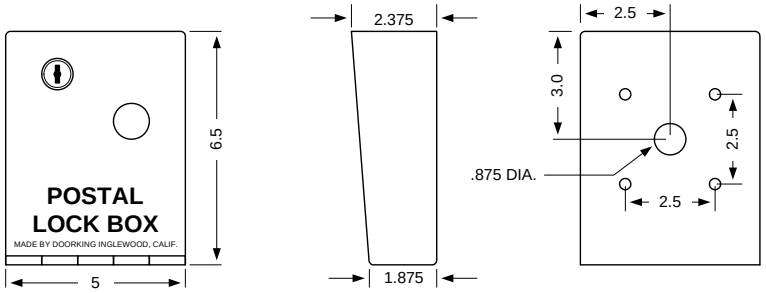
BOARD TERMINALS	DB - 9 PINS	DB - 25 PINS	FUNCTION
1	3	2	Transmit Data
2	2	3	Receive Data
3	7	4	Request to Send
4	8	5	Clear to Send
5	5	7	Signal Ground - Shell
6			Not Used

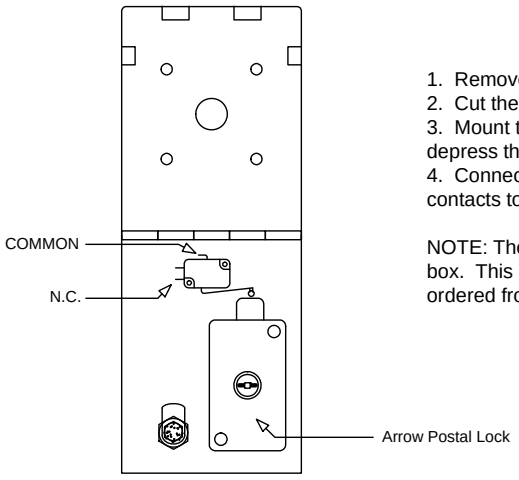
DOORKING, INC., INGLEWOOD, CA 90301		
Title: Detail Wiring - 30 Series RS-232 Connector		
Date: 3/03	Dwg. No. M1835-065-5	Rev. A

2.3.7 Postal Lock Box Installation & Wiring – Optional

At some locations, such as gated communities, it may be necessary to provide access to the mail carrier so that they can deliver the mail. Mail carrier access can be provided by the installation of an Arrow Postal Lock into a DoorKing Postal Lock Box (p/n 1402-080). This is the same lock that the Post Office uses for gang mail boxes. These locks are not available to the public. The installer or the building owner/manager will have to call the Post Office and arrange for the installation of this lock into the Postal Lock Box.

1402 Postal Lock Box
Installation and Wire Connections





INSTRUCTIONS

1. Remove the hole plug from the faceplate of the 1402 lock box.
2. Cut the wire tie wrapped around the micro-switch.
3. Mount the postal lock on the studs. The pawl of the lock should depress the micro-switch.
4. Connect COMMON and the NORMALLY CLOSED switch contacts to main terminals 4 and 6 in the controller.

NOTE: The Arrow Postal Lock IS NOT included with the 1402 lock box. This lock is not available to the general public and must be ordered from the local Post Office.

DOORKING, INC., INGLEWOOD, CA 90301		
Title: 1402 Postal Lock Box Installation and Wire Connections		
Date: 4/03	Dwg. No. M1838-065-3	Rev. A

SECTION 3 – PROGRAMMING

IMPORTANT! Many of the advanced features available with this access control system cannot be programmed from the system keypad. These features include relay hold open time zones, security levels, anti-pass back tables, elevator control options and programming via the internet using DKS servers. If any of these features are used, the system must be programmed with the DoorKing Remote Account Manager for Windows software, VERSION 6.2 or higher. Refer to the software help screen for more information on these features.

We strongly suggest that you read these programming instructions in their entirety before beginning any programming of this access control system.

3.1 GENERAL PROGRAMMING INFORMATION

The DoorKing PC Programmable Access Control System is primarily programmed by using the DoorKing Remote Account Manager for Windows software. However, the system can also be programmed from the keypad in the control cabinet. When programming from an off site location with a PC, the RING pin must be installed on the circuit board.

The PC programmable access control system has two relays on the circuit board, both of which are programmable for any function required. These relays are designated as Relay 1 (R-1), and Relay 2 (R-2). If Tracker expansion boards are used with this system, it is very important that you understand the function of these two relays. The wiegand input auxiliary terminals (also the Tracker board input terminals) will cause R-1 or R-2 to activate. Therefore, if Tracker expansion boards are used with this system, R-1 and R-2 are designated as Tracker board command (CMD) relays with R-2 controlling tracker boards 1 through 8 (system relays 3-10), and R-1 controlling tracker boards 9 through 16 (system relays 11-18).

3.1.1 Programming with a PC

Prior to programming the system with a PC and the DoorKing Remote Account Manager for Windows Software, there is certain information that you must know and must program into the system before the computer can communicate with the system. See page 23 to set-up the access control system for PC programming. Programming the system with a PC may be accomplished by modem, by direct connection via the RS-232 communications terminal (requires 1818-040 cable), via the internet using DKS modem servers, via the internet using DKS internet servers, or via a LAN connection. Using the DKS internet server option or LAN option requires the 1830-175 TCP/IP kit be installed and the DoorKing Remote Account Manager for Windows Software VERSION 6.2 or higher.

3.1.2 Programming from the Keypad

Follow the programming instructions as described in each section of this manual. The system will prompt you with short tones (beep) when programming steps have been followed correctly, and with a long tone (beeeeeep) when the programming step is ended. It is highly recommended that you complete the user listing in the appendix prior to starting any programming from the keypad. This listing will provide you with the information needed to complete the manual programming sequence.

This symbol _ in the programming steps indicates numbers that you will need to enter, one number per symbol. When programming from the keypad, after each programming step is performed correctly, a short tone (beep) will be heard. When the programming session is ended, a long tone (beeeeeep) will be heard.

NOTE: Relay hold open time zones, security levels, anti-pass back IN / OUT tables, anti-pass back re-sync schedules, holiday schedules and elevator control functions cannot be programmed from the system keypad. These functions can only be programmed from a PC using the Remote Account Manager Software.

3.1.3 System Memory

Beginning in January, 2010, the 1838 access control system is available with a 500 or 3000 memory (APB) chips installed in the system. The information below is to assist you with programming older systems or when there is a need to change the memory chips to match a chip set on another system already installed. Prior to starting the programming of the PC programmable access control system, you must know the memory capacity and type of the EEPROM chips that are installed in the unit. This can be determined by inspecting the small chip that has a tag listing the memory size on it and will be labeled APB if anti-pass back is enabled. The memory size determines the number of residents, vendors, four-digit entry codes and device codes that can be stored in the system. APB indicates that the chip set has anti-pass back capability. The table shows the valid numbers available with each memory level.

Part Number		System Memory	User Name Capacity	Entry Code Capacity	Device Code Capacity
Standard	APB				
1838-150	1838-140	25	25	25	625
1838-151	1838-141	75	75	75	1875
1838-152	1838-142	125	125	125	3125
1838-153	1838-143	250	250	250	6250
1838-154	1838-144	500	500	500	8000
1838-155	1838-145	1000	1000	1000	8000
1838-156	1838-146	2000	2000	2000	8000
1838-157	1838-147	3000	3000	3000	8000

3.2 PROGRAMMING WITH A PC

Prior to programming the PC Programmable Access Control System with the DoorKing Remote Account Manager for Windows software and the user supplied PC, the system must have the MASTER CODE programmed into it. The master code cannot be set with the PC and must be programmed from the system keypad.

NOTE: The programming steps in this section (3.2.1 through 3.2.6) can only be programmed from the system keypad. There is no programming sequence in the Remote Account Manager Software for these functions.

3.2.1 Master Code

This programming step sets the system MASTER CODE. The master code is the four-digit number required to gain access to the system memory. You need to know the master code prior to programming the system with the PC, or to perform any of the programming functions on the following pages.

Factory setting = 9999

1. Open the cabinet of the telephone entry system and turn the master code switch (the small toggle switch) on.
2. Enter a four-digit master code _ _ _ _ then press ***** (beep).
3. Turn the master code switch off and close the cabinet.

3.2.2 Single or Multiple Systems

This program sequence sets the access control system to operate as a single unit on the phone line, or to share the phone line with other units. If multiple systems are sharing the same phone line, then each one must be set as a "multiple system" and each must have a unique master code.

Factory setting = Single System.

1. Press *** 0 4** and then enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter **0 *** (beep) for a single system or **1 *** (beep) for multiple systems.
3. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.2.3 Programming Resident Elevator Button Relay Time

When elevator control is in use, an access device such as a card reader must be installed in the elevator car to allow residents access to the floors in the building. The time interval that the button(s) is “live” after the resident activates the access device is dependant on the revision level of the 1838 access controller circuit board, not the 2348 elevator control board. **The relay time interval for 1838 circuit boards with revision level A-C is set at 7 seconds. The time interval can be programmed from 1 – 254 seconds on boards with revision level D and higher.**

Factory setting = 007

1. Press *** 3 6** and then enter the four digit master code _ _ _ _ (beep).
2. Enter the relay time in seconds _ _ _ (001-254) then press ***** (beep).
3. Press **0 #** together to end this programming sequence (beeeeeep).

3.2.4 Open Tone On or Off

The following programming sequence turns the open tone (when the relays activate) either On or Off. This feature is available on Rev J boards or higher.

Factory setting = 1 (tone on)

1. Press * 1 5 and then enter the four digit master code _ _ _ _ (beep).
2. Enter 1 for yes (tone will sound) or 0 for no (tone will not sound) then press ***** (beep).
3. Press 0 # together to end this programming sequence (beeeeeep).

3.2.5 Elevator Control Function

This new elevator feature authorizes floor access to the Floor Level identified in the Resident Screen in the software program AND to the floor(s) level identified in the Security Level screen. If this feature is turned off, access will be granted only the floor identified in the user's security level. This feature is available on Rev J boards or higher.

1. Press * 7 5 and then enter the four digit master code _ _ _ _ (beep).
2. Enter 1 for yes (access is authorized to both the floor identified in the resident screen and to the floor(s) identified in the user's security level) or 0 for no (access is authorized only to the floor(s) identified in the security level screen) then press ***** (beep).
3. Press 0 # together to end this programming sequence (beeeeeep).

3.2.6 RS-232 Speed Setting

The following programming sequence sets an optional faster RS-232 speed. This feature is available on Rev L boards or higher and the Remote Account Manager Software, Version 6.2, must be used.

Factory setting = 0 (9600 baud rate)

1. Press * 8 5 and then enter the four digit master code _ _ _ _ (beep).
2. Enter 0 for 9600 baud rate or 1 for 19200 baud rate then press ***** (beep).
3. Press 0 # together to end this programming sequence (beeeeeep).

STOP!!

If the access control system is to be programmed from a PC, no other programming is required at the system itself. Refer to the Remote Account Manager for Windows Software help screens for additional programming information. Continue with the remaining sections in this chapter if the access control system will be programmed by any other method. If the factory setting matches your need, there is no reason to reprogram that section.

Remember that relay hold open time zones, security levels, and elevator control functions can only be programmed from the Remote Account Manager Software. If any of these features are being used, do not proceed with any other programming steps in this manual.

3.3 GENERAL PROGRAMMING

Proceed with the programming steps on the following pages only if PC programming will not be used.

3.3.1 Relay Strike Time

These steps will program Relay 1 and Relay 2 strike times. Strike times can be programmed from 1/4 second (enter 00 in step 4) up to 99 seconds by entering the desired time in seconds. If Tracker expansion boards are going to be used with this system, set Relay 2 strike time to 00 for Tracker boards 1-8. If more than 8 Tracker boards are being used, set Relay 1 strike time to 00 (for Tracker boards 9-16).

Factory setting for relay strike times are: Relay 1 = 01, Relay 2 = 01.

1. Press *** 0 3** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Press **1 *** to set relay 1, or **2 *** to set relay 2 strike time.
3. Enter the two-digit strike time _ _ (00-99) then press ***** (beep).
4. Repeat steps 2 and 3 to set other relay strike times.
5. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.3.2 Talk Time

The talk time set here does not affect the telephone numbers that are programmed under directory codes 0, 00, 000, 0000 (input A) and 1, 01, 001, 0001 (input Z). The talk time for these two directory codes are factory set to the maximum. Phone numbers programmed under these directory codes should be reserved for management or emergency phone numbers that generally require longer conversations. This programming sequence can be used to set the maximum time allowed for conversation when the entry system places a call to a phone number programmed under directory code 2, 02, 002 or 0002 (inputs A-Z together). The talk time can be set from 1 second up to 255 seconds (4 minutes, 15 seconds) and is entered as a three-digit number. For example, to set a talk time of 20 seconds, enter 020 in step 3.

Factory setting for talk time = 60 seconds.

NOTE: This programming step is only used when a DKS Remote Call Station is connected to the 1838 system, and only if the telephone number is programmed under directory code 2, 02, 002 or 0002.

1. Press *** 0 8** and enter the four digit MASTER CODE _ _ _ _ (beep).
2. Enter three digits for talk time (seconds) _ _ _ (001-255) then press * (beep).
3. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.3.3 Tone Open Numbers

These steps will program the tone open numbers for relays 1 and 2. You will need to enter a four-digit number (see chart below) to set the relay functions. If a function is not desired, enter # in place of a number. For example, if you want the relay to have a momentary activation function only, and you want the relay to activate when the number 9 is pressed on a touch-tone phone after calling the system, enter **9 # # #** in step 4. Do not duplicate tone open numbers, i.e., don't set relay 1 and 2 tone-open numbers all to 9. If Tracker expansion boards are connected to the system, there is no need to set a momentary open tone open number for the tracker control relay(s). However, you may want to set HOLD and DEACTIVATE tone numbers, which will allow management to have a function to automatically unlock all doors/gates controlled by a Tracker board (refer to 4.2.2).

Factory setting is: Relay 1 = 9876, Relay 2 = 5432.

1. Press *** 0 5** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Press **1 *** to set relay 1 or **2 *** to set relay 2 tone numbers.
3. Enter the four-digit tone open number code _ _ _ _ then press ***** (beep).
4. Repeat steps 2 and 3 to set the other relay tone open numbers.
5. Press **0 #** TOGETHER to end this programming step (beeeeeep).

NUMBER	FUNCTION
1st Digit	Momentary activation. Relay will activate for the programmed strike time (3.3.1).
2nd Digit	Relay hold. Relay will activate and remain activated until commanded to release.
3rd Digit	Relay release. Deactivates the relay hold command.
4th Digit	Relay hold 1-hour. Relay will activate for 1-hour and then will automatically deactivate itself.

3.3.4 Input Switch

This programming sequence sets what relay(s) will activate when the input (postal) switch input is activated on the access control system. The system can be programmed so that only one relay will activate, or any combination of relays will activate. To cause a relay to activate, enter a 1 in it's respective character slot, or enter a zero to not activate the relay. Any combination of 1's or 0's is permissible. For example, entering 010 in step 3 will cause only relay 1 to activate. Entering 011 will cause both relay 1 and relay 2 to activate.

Factory setting = 010.

NOTE: Although you are setting the input switch activation for two relays only, you must enter a three-digit code in step 2. Always use 0 as the first digit.

1. Press *** 5 0** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the three-digit (1's or 0's only) postal relay code _ _ _ then press ***** (beep).
3. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.3.5 Touch-tone / Rotary-dial

This programming sequence will set the remote call station to dial out in either a touch-tone or rotary format. Generally, this will be set for touch-tone.

Factory setting = touch-tone.

NOTE: This programming step is only used when a DKS Remote Call Station is connected to the 1838 system.

1. Press *** 0 7** and enter the four digit MASTER CODE _ _ _ _ (beep).
2. Enter **0 *** (beep) for touch-tone **or** enter **1 *** (beep) for rotary.
3. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.3.6 Rotary-dial 9

This programming sequence sets which relay(s) will activate when the system receives a rotary-dial 9 open command from a rotary telephone. The system can be programmed so that only one relay will activate, or any combination of relays will activate. To cause a relay to activate, enter a 1 in it's respective character slot, or enter a 0 to not activate the relay. Any combination of 1's or 0's is permissible. For example, entering 010 in step 3 will cause only relay 1 to activate. Entering 011 will cause both relay 1 and relay 2 to activate.

Factory setting = 010.

NOTE: Although you are setting the rotary dial 9 activation for two relays only, you must enter a three-digit code in step 2. Always use 0 as the first digit.

1. Press *** 5 1** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the three-digit (1's or 0's only) rotary 9 code _ _ _ then press * (beep).
3. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.4 PROGRAMMING PHONE NUMBER

NOTE: These programming steps are only used when a DKS 1838-120 or 1838-121 Remote Call Station is connected to the 1838 system.

3.4.1 Programming the Directory Code Length

This programming sequence sets the directory code length to 1 - 2 - 3 or 4 digits.

Factory setting is three (3) digits.

CAUTION: This programming sequence will delete all directory codes that have been previously programmed into the system.

1. Press *** 2 0** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the desired directory code length _ (1, 2, 3 or 4) then press ***** (beep).
3. Enter **0** then ***** to cancel this command or enter **1** then ***** to confirm this command. A long tone (beeeeeep) will sound when the programming is complete.

3.4.2 Programming 7-digit Phone Number

In this programming sequence, the directory code and 7-digit phone number will be programmed into the system. Be sure you have programmed the directory code length that you desire as described in 3.4.1. **Changing the directory code length after programming the telephone number will erase all the numbers and directory codes that have been programmed**. To program a phone number that will be referenced to an area code (long distance calls and 10 digit calling), follow the instructions under 3.4.3 and 3.4.4.

NOTE: If this system is being used in an area that requires 10 digit dialing, proceed to 3.4.3 and 3.4.4 to program the area code and phone number.

1. Press *** 0 1** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the directory code (1, 2, 3 or 4 digits depending on what was programmed in 3.4.1) then press ***** (beep),
3. Enter the seven-digit phone number _ _ _ _ _ _ _ then press * (beep). If the number that you are entering in this step is less than seven-digits, enter # in the empty spaces. For example, if the system is connected to a PBX that requires four-digit extension numbers and you want to enter extension 2217, you would enter this number as 2217#### then press ***** (beep).
4. Press **0 #** TOGETHER to end this programming step (beeeeeep).

NOTE: Only the following Directory Codes may be used: 0, 00, 000, 0000, OR 1, 01, 001, 0001, OR 2, 02, 002, 0002.

3.4.3 Programming Area Code

Program an area code when 10-digit or long distance calling is required. The area code will be entered as a four-digit number (1 + the three digit area code) for long distance dialing. If an area code is being programmed to facilitate 10-digit calling requirements, precede the three-digit area code with #.

1. Press *** 2 4** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter **1** then press ***** (beep).
3. Enter the four digit area code _ _ _ _ then press ***** (beep). NOTE-1: for long distance calling requirements, enter 1 and the three-digit area code. NOTE-2: for 10-digit calling requirements, enter # and the three-digit area code.
4. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.4.4 Programming Phone Numbers with Area Code

In this section, phone number is referenced to the area code that was programmed in 3.4.3.

NOTE: If long distance or 10-digit dialing is not required, program the seven digit telephone numbers as described in 3.4.2.

1. Press *** 4 1** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the directory code (1, 2, 3 or 4 digits depending on what was programmed in 3.5.1) then press ***** (beep).
3. Enter **1** then press ***** (beep).
4. Enter the seven-digit phone number _ _ _ _ _ _ _ then press ***** (beep). If the number that you are entering in this step is less than seven-digits, enter # in the empty spaces. See 3.4.2, step 3.
5. Press **0** # TOGETHER to end this programming step (beeeeeep).

3.4.5 Delete Phone Number

This programming sequence is used to delete the phone number under a known directory code.

1. Press *** 0 1** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the directory code (1, 2, 3 or 4 digits depending on what was programmed in 3.5.1) then press ***** (beep).
3. Press **# # # # # # #** then press ***** (beep).
4. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.4.6 Delete Area Code

This program sequence deletes the area code programmed into the system.

1. Press *** 2 4** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter **1** then press ***** (beep).
3. Enter **# # # #** then press * (beep).
4. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.4.7 PBX Line Access Code Programming

If the 1838 / Remote Call Station system is connected to a PBX telephone system rather than a dedicated C.O. line, you may need to set the unit to dial a line access code prior to dialing the a phone number. Typically, the line access code is “9”, but check with the PBX system administrator to be sure.

1. Press *** 0 9** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the line access code number _ then press ***** (beep).
3. Press **0 #** TOGETHER to end this programming step (beeeeeep).

   NOTE: To change a line access number, enter the correct number in step 2. To delete a line access number, enter # in step 2.

3.5 PROGRAMMING DEVICE CODES

The PC programmable access control system must be equipped with a MemPLUS chip to program device codes into its memory. Device codes must be five (5) digits in length and are typically card and transmitter codes. Each device code that you enter is assigned to the directory code that you select. Up to 25 device numbers can be entered under a single directory code, up to a maximum of 8,000 for the system. You cannot duplicate device codes.

3.5.1 Programming Device Codes

This program sequence enters device (card, transmitter, digital) codes into the system memory.

1. Press *** 7 0** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the directory code that the device code is to be assigned to (1, 2, 3 or 4 digits depending on what was programmed in 3.4.1) then press ***** (beep).
3. Enter the five-digit device code _ _ _ _ _ then press ***** (beep).
4. Repeat steps 2 and 3 to enter additional device codes.
5. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.5.2 Deleting Device Codes

This program sequence deletes individual device codes.

1. Press *** 7 1** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the directory code (1, 2, 3 or 4 digits depending on what was programmed in 3.4.1) then press ***** (beep).
3. Enter the five-digit device code _ _ _ _ _ then press ***** (beep).
4. Repeat steps 2 and 3 to delete additional device codes.
5. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.5.3 Enabling Facility Codes

This program sequence allows you to use (enable) or not use (disable) facility codes.

1. Press *** 7 2** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter **0** to disable facility codes or enter **1** to enable facility codes then press ***** (beep).
3. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.5.4 Programming Facility Codes

This program sequence enters device facility codes into the system memory. Up to 10 facility codes (reference numbers 0 through 9) may be programmed. Valid facility codes are 000 – 255.

1. Press *** 7 3** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the first facility code reference number _ (0 – 9) then press ***** (beep).
3. Enter the three-digit facility code _ _ _ then press ***** (beep).
4. Repeat steps 2 and 3 to enter additional facility codes.
5. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.6 FOUR-DIGIT ENTRY CODE

A DoorKing slave keypad (P/N 1814-075) is required if four-digit entry codes are going to be used to access a door or gate. It is important to understand that four-digit entry codes are not the same as a five-digit PIN (Personal Identification Number) code inputted to the system from a weigand keypad. Four-digit entry codes can only activate relay 1 or relay 2 on the 1842-010 circuit board, regardless if Tracker expansion boards are used or not. If Tracker expansion boards are controlled by relay 2, the four-digit entry codes must be set to activate relay 1. If both relays are used to control Tracker expansion boards, then four-digit entry codes cannot be used and should not be programmed into the system. Under this condition, if digital PIN codes are desired, use a weigand keypad (P/N 1815-050 or 1815-051) connected to a Tracker board.

3.6.1 Programming Four-digit Entry Codes

1. Press *** 0 2** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the directory code (1, 2, 3 or 4 digits depending on what was programmed in 3.4.1) then press ***** (beep).
3. Enter the four-digit entry code _ _ _ _ then press ***** (beep).
4. Repeat steps 2 and 3 to enter additional entry codes.
5. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.6.2 Delete Four-digit Entry Codes

1. Press *** 0 2** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter the directory code (1, 2, 3 or 4 digits depending on what was programmed in 3.4.1) then press ***** (beep).
3. Press **# # # # *** (beep).
4. Repeat steps 2 and 3 to delete more entry codes.
5. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.6.3 Entry Code Ranges

Four-digit entry codes can be made to activate relay 1 or relay 2 or any combination of relays by programming HI and LOW ranges for each relay. Ranges may overlap, which will cause more than one relay to activate if this is desired. For example, if the low boundary for relay 1 and 2 is 2000, and the hi boundary is 3000 for relay 1 and 4000 for relay 2, then entry codes between 2000 and 3000 will activate both relays, and entry codes between 3001 and 4000 will only activate relay 2.

1. Press *** 1 2** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Press **1 *** to set relay 1, or **2 *** to set relay 2 boundaries.
3. Enter the four-digit low boundary _ _ _ _ then press ***** (beep).
4. Enter the four-digit high boundary _ _ _ _ then press ***** (beep).
5. Repeat steps 2, 3, and 4 to set the other relay boundaries (or proceed to step 7).
6. Press **0 #** TOGETHER to end this programming step (beeeeeep).

3.7 ANTI-PASS BACK – 1833, 1835, 1837 only with APB CHIP SET

The programming steps below will allow you to set up and program some basic functions for the anti-pass back feature. However, you must set up the IN and OUT relay programming table in the Remote Account Manager software, version 5.6. Anti-Pass Back tables cannot be set from the keypad. Refer to manual 1835-066.

3.7.1 Programming the Anti-Pass Back Mode

Anti-Pass Back (APB) can be set to operate in one of three different modes. PASSIVE APB records an APB Violation and will allow entry or exit. ACTIVE APB records an APB Violation and will not allow entry or exit. TRAP APB records an APB Violation and will allow entry but not exit.

1. Press *** 4 3** and enter the four-digit MASTER CODE _ _ _ _ (beep).
2. Enter **0** for OFF, **1** for PASSIVE, **2** for ACTIVE or **3** for TRAP, then press ***** (beep).
3. Press **0 #** TOGETHER to end this programming step.

3.7.2 Re-Sync All Devices

This programming step is used to allow all cards one 'move' either in or out without causing an APB Violation to be recorded.

1. Press *** 4 5** and enter the four digit MASTER CODE _ _ _ _ (beep).
2. Press **1** to Re-Sync ALL devices or press **0** to not Re-Sync, then press ***** (beeeeeep).
3. The programming sequence will end itself after all cards are re-synced.

3.7.3 Re-Sync Individual Devices

This programming step is used to re-sync a single card only.

1. Press *** 4 6** and enter the four digit MASTER CODE _ _ _ _ (beep).
2. Enter the five digit device number _ _ _ _ _ then press ***** (beep).
3. Press **0 #** TOGETHER to end this programming step.

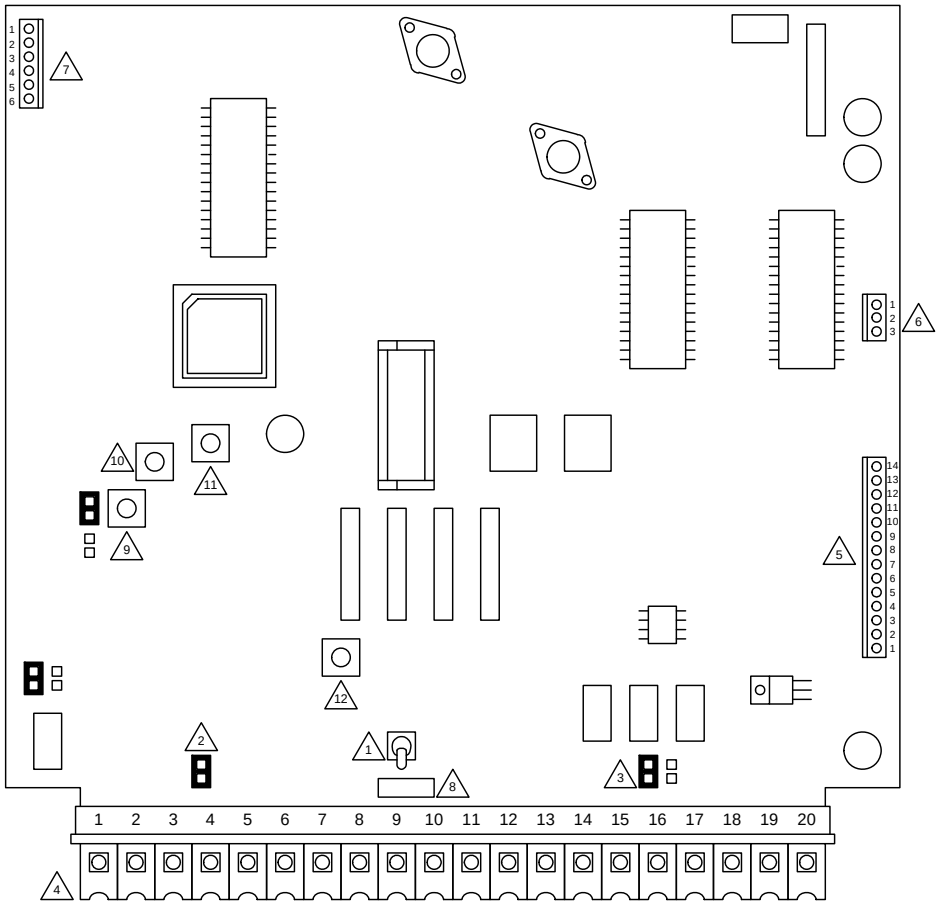
3.7.4 Reset Facility Counter

This programming step is used to reset the facility counter. The facility counter keeps track of the number of "IN's" and "OUT's" when using APB mode.

1. Press *** 4 8** and enter the four digit MASTER CODE _ _ _ _ (beep).
2. Enter a five digit number that you want the count to start at _ _ _ _ _ then press ***** (beep). (Example: to start at 25, enter 00025)
3. Press **0 #** TOGETHER to end this programming step.

3.8 CONTROL BOARD ADJUSTMENTS

1838 Control Board Adjustments



1. Master Code Toggle Switch
2. Ring Pin
3. Relay 2 Contact Normally Open (NO) / Normally Closed (NC) Jumper
4. Main Terminal Strip
5. Auxiliary Terminal Strip
6. Elevator Control Terminal Strip
7. RS 232 Terminal Strip
8. Keypad Pins
9. Feedback
10. Speaker Volume
11. Microphone Volume
12. Click Sensitivity

DOORKING, INC., INGLEWOOD, CA 90301		
Title: 1838 Board Adjustments		
Date: 12/06	Dwg. No. M1838-065-4	Rev. B

3.8.1 Master Code Switch

1. The master code switch is left in the off position for normal operation. Turn the master code switch on when setting the system master code. See programming instructions to set the system master code. If the master code switch is turned on and a new master code is not entered, the system will sound a long tone after approximately 30 seconds. This tone will continue every 30 seconds until a new master code is entered, or until the switch is turned off.

3.8.2 Ring Pin

1. The ring pin is labeled RING on the control board. This shorting pin must be installed to allow the system to answer any calls placed to it. If remote programming or remote relay operation is to be used, the shorting pin must be installed. Removing the shorting pin will cause the system to never answer any call placed to it.

3.8.3 Relay 2 Contact Pin

1. This shorting pin sets the contacts on relay number two to be set to either Normally Open (NO) or Normally Closed (NC). **The pin is set to NO from the factory**.

Note: 3.8.4 and 3.8.5 are only applicable if a Remote Call Station is connected to the 1838 controller.

3.8.4 Speaker Volume, Microphone and Feedback

Speaker volume, microphone volume and feedback all interact with each other to affect the audio performance of the system. Use the following steps to set these adjustments.

1. Open the 1838 controller and locate the speaker volume, microphone volume and feedback adjustments (see page 34).
2. Set the speaker volume about 1/3 from full counter-clockwise.
3. Set the microphone volume to 1/2.
4. Place a phone call from Remote Call Station. If feedback occurs, turn the speaker volume counter-clockwise until it ceases.
5. While still on the line, ask the other party to remain silent while rubbing your finger over the microphone hole on the face plate. Rotate the feedback adjustment throughout its range while listening to the sound coming from the speaker. When the sound is minimum, this is the correct setting.
6. Speaker volume and microphone volume may now be adjusted to desired levels. If both are set too loud, feedback may result. For louder speaker volume, the microphone volume may need to be decreased. For louder microphone volume, the speaker volume may need to be decreased.
7. Normal setting for both speaker volume and microphone volume is about 1/2.
8. After setting these adjustments, place some test calls. If feedback occurs, microphone and/or speaker volume will need to be reduced.

3.8.5 Click Sensitivity – For Use with Rotary Dial Phone(s) Only

1. Open the front of the 1838 controller and locate the click sensitivity adjustment.
2. If rotary a dial phone is not used, set the click sensitivity to full counter-clockwise to disable this feature. If a rotary dial phone is used, proceed to step 3.
3. Place a phone call from the Remote Call Station. After the call is answered, ask the party to dial 9 while you adjust the click sensitivity potentiometer (the party may have to dial 9 several times for you to obtain the correct adjustment). When the door or gate opens, this is the correct adjustment for the click sensitivity.
4. NOTE: Adjusting the click sensitivity too high (potentiometer fully clockwise) could cause the system to respond to loud noises while it is in use. If this happens, rotate the click sensitivity potentiometer counter clockwise 1/8 turn and re-test the system. You may have to perform this step several times to find the correct adjustment.

SECTION 4 – OPERATING INSTRUCTIONS

4.1 USER INSTRUCTIONS

4.1.1 Card Access

Card access is provided by card readers or automatic vehicle Identification devices (AVID) that can be connected to the 1838 controller.

1. If the system uses proximity type readers, present the card or PROXmtr™ to the reader by holding it close the reader head.
2. If the system uses an AVID system, operation is automatic.

4.1.2 RF Transmitters

RF transmitters are typically used to control vehicular access through automated gates. Some RF transmitters, called PROXmtr's™, have a proximity card built-in that enables them to also be used as cards to access areas controlled by a card reader.

1. Press the transmitter button when in view of, and within 75 feet of the access gate.
2. PROXmtr's™ only: hold the transmitter near the proximity card reader head.

4.1.3 Five-Digit PIN Codes

Five-digit PIN (Personal Identification Number) codes should not be confused with four-digit entry codes. Although both type codes are entered on a keypad, the access system processes them and treats the codes in different ways.

1. Enter the five-digit code directly on the wiegand keypad. A valid code will open the door or gate.

If management decides to utilize PIN codes, system users should be instructed to keep their unique code secret. Telling other persons their code or allowing other persons to use their code compromises security and defeats the purpose of the system.

4.1.4 Four-Digit Entry Codes

Four-digit entry codes provide a means for a person to gain access by using a four-digit code entered on a slave keypad connected to the controller. The four-digit code will activate either relay 1, relay 2 or both relays depending on the boundaries that have been programmed in 3.6.3.

1. Press **#** and then enter the four-digit code on the slave keypad.

If management decides to utilize entry codes, system users should be instructed to keep their unique code secret. Telling other persons their code or allowing other persons to use their code compromises security and defeats the purpose of the system.

4.2 SYSTEM ADMINISTRATOR INSTRUCTIONS

The system administrator can perform the following operations from a remote location using a touch-tone telephone **if the optional telephone line has been connected to the 1838 controller**. You must know the phone number of the line that the system is installed on and the system master code.

4.2.1 Opening the Door / Gate From A Remote Location

1. Call the telephone number that the system is installed on. The 1838 will answer with a short beep.
2. Press *** 1 6** and enter the four-digit master code _ _ _ _ (short beep).
3. Press the desired tone-open number _ (short beep).
4. Hang-up.

Note: Step-3, refer to 3.3.3 to determine which tone-open numbers have been programmed (momentary open, hold open, release, hold open 1-hour).

4.2.2 Tracker Board Override Command

The Tracker board override command is used when Tracker expansion boards are connected to the system. **This command will cause ALL Tracker boards connected to the system to open or unlock the door or gate that they are controlling, and will remain in this state until commanded to return to normal operation.** This feature is useful when management wants to open all gates or unlock all doors – perhaps during an emergency situation for example. Hold-open tone numbers must be programmed for the override command to be functional. See 3.3.3.

1. Call the telephone number that the system is installed on. The 1838 will answer with a short beep.
2. Press *** 1 6** and enter the four-digit master code _ _ _ _ (short beep).
3. Enter the HOLD tone number _ (short beep).
4. Hang-up.

To release the override command, repeat the steps above but enter the RELEASE tone number in step 3.

4.3.3 Relay Check

The access system can be called and a check can be made to determine if any of the relays in the system are in a "hold open" mode. This check can be useful if your gate (or door) is held open and you suspect that one of the system relays may be the cause.

1. Call the telephone number that the system is installed on. The system will answer with a short beep.
2. Press *** 1 6** and enter the four-digit master code _ _ _ _ (short beep).
3. The system will emit a series of short tones if the relay is in a continuous activation mode.
   Relay 1 activated: beep - pause - beep - pause . . .
   Relay 2 activated: beep beep - pause - beep beep - pause . . .
4. Press the programmed tone number _ to deactivate the relay (short beep). The system will automatically hang up.

SECTION 5 – MAINTENANCE

The DoorKing 1838 access controller is essentially a maintenance free device. When the unit is properly installed, it should provide years of trouble free service. Maintenance is limited to updating the directory and phone number and/or card/transmitter codes as users are added and deleted from the system.

5.1 TROUBLE SHOOTING

If problems should develop with your access control system, refer to the trouble-shooting guide on the following pages to try and correct any problems. Our experience has shown that a majority of reported problems are actually programming related and can be corrected on site. If problems persist and they cannot be corrected, contact your authorized DoorKing dealer for assistance. Before performing any trouble-shooting, check the following:

1. Have a good VOM meter handy to check voltages and continuity.
2. Have a telephone test set (DoorKing p/n 1800-050 or equivalent) to check the telephone line. Noise on the phone line will cause problems with the entry system.
3. Be sure that the entry system case is properly grounded.
4. Be sure that the telephone wires are twisted.
5. A hum on the system indicates that the phone line or 16 VAC power lines may be grounded. Check to be sure that the phone lines or power lines are not shorted to ground.
6. Check the 16 VAC system power. Be sure that the transformer is properly rated (20 VA). Keep the wire run from the transformer to the entry system as short as possible. Use 16 or 18 AWG, 600 volt insulated wire only. **The importance of proper power wiring cannot be over stressed!**
7. Isolate the access controller. Disconnect any external devices, such as Tracker expansion boards, elevator control boards, RS232 connection, card readers, RF receivers, keypads, etc. which may affect the operation of the controller.

SYMPTON	POSSIBLE SOLUTION(S)
Cannot get into programming mode.	Wrong master code entered. Start over. Waiting too long between pushing buttons. Enter information quicker. Keypad is not plugged into board correctly. Cable points to the left. Memory chips are installed backwards.
System emits a long tone and cancels programming.	Waiting too long between pushing buttons. Forgetting to press **#** first when programming.
Keypad is dead.	No power. Check for 16 VAC input power. Check that the keypad is properly connected to the circuit board. The cable on the plug points to the left when connected to the circuit board.
Buzz or noise on the phone line.	Disconnect the phone line from the system and check it with a handset. If line is noisy, problem is with the phone line and not the entry system. Check for any shorts to ground behind the circuit board. Check for pinched wires near the door hinge. Check for 16-volt power shorted to ground. Check for phone line shorted to ground. Check that phone wires are twisted. Check that the proper type of phone wire was used for an outdoor and / or underground application. Check that all wires, speaker, keypad, etc. are isolated from ground. Check that the cabinet is properly grounded. Be sure that case ground (terminal 3) is not used as a low voltage common. Check for excessive voltage drop on 16 VAC power.
Ringing or howling from the speaker.	Volume is set too high (3.8.4).
Door strike locks on.	Excessive voltage-drop on 16 VAC line. Using a transformer with too low VA rating. Relay strike time programmed too long (3.3.1).
Door strike or gate operator holds open.	System was given a hold open command. Call the system and press the tone deactivate number (3.3.3).
System will not answer when called.	Ring pin is not installed (3.8.2). Bad phone line or insufficient ring voltage.
Touch-tone 9 will not activate relay.	Re-program tone-open number to 9 (3.3.3). If phone emits a short pulse rather than a long tone, press 9 twice in rapid succession **9 9**. Try another phone that is known to work. Lower speaker volume (3.8.4).
Relay activates but gate operator will not open.	Re-program relay strike time for a longer period (3.3.1). Check wiring to gate operator. Check gate operator.
Postal switch will not activate relay.	Be sure that the wire-tie has been clipped off the postal switch. Be sure that the relay has been programmed for postal switch input (3.3.4). Be sure postal switch is connected properly.

SYMPTON	POSSIBLE SOLUTION(S)
Four-digit entry codes will not work.	Forgetting to press **#** first. Re-program the entry code ranges (3.6.3).
Entry codes will not activate relay 1.	Re-program relay 1 low and high ranges (3.6.3).
Entry codes will not activate relay 2.	Re-program relay 2 low and high ranges (3.6.3).
System emits a beep every 30 seconds.	Master code switch is in the ON position (3.8.1).
System emits 2 short beeps when powered up.	The memory chip size (small chip) and the main memory storage ship (large chip) do not match in memory size. By pressing 1, the main memory storage chip will be matched to the memory size chip. **All data in the main memory will be erased when this function is performed.**
System emits 3 short beeps when powered up.	The small chip in the PC board socket is for a telephone entry system and cannot be used in the access control system.

5.1.1 RS-232 Test

This test procedure will check the RS-232 hardware to determine a pass or fail mode. You will need two short pieces of wire to perform this test.

1. Open the cabinet of the access control system and locate the RS-232 terminals in the upper right hand corner of the control board.
2. Short terminal 1 to terminal 2 using the first piece of wire.
3. Short terminal 3 to terminal 4 using the second piece of wire.
4. Press *** 1 7** and enter the four-digit master code _ _ _ _ (beep).
5. Press ***** .
   PASS - A long tone will be heard (Beeeeeep).
   FAIL - Two short tones and then a long tone will be heard (Beep - Beep - Beeeeeep).
6. Remove the jumper wires from the terminal after performing this test.

5.1.2 Floor, Elevator, Security Level Test Programming

This programming sequence is included for troubleshooting the elevator control board(s) only. It allows you to enter basic information for troubleshooting purposes. You will need the Elevator Control Installation Manual for additional information regarding troubleshooting the elevator control board(s).

1. Press *** 4 2** and enter the four-digit master code _ _ _ _ (beep).
2. Enter a know directory code that has been programmed into the system (1, 2, 3 or 4 digits depending on the number programmed in 3.4.1) then press ***** (beep).
3. Enter a five-digit number that represents a two-digit floor number (01-64); a single-digit elevator reference number (1-8); and a two-digit security level number (00-30) _ _ _ _ _ then press ***** (beep).
4. Repeat steps 2 and 3 to program additional floor numbers, elevator reference and security level codes.
5. Press **0 #** TOGETHER to cancel the weigand test mode.

5.1.3 Elevator Board(s) Hardware Test

This programming sequence is designed for trouble shooting the elevator control board(s) that may be connected to the access control system. This sequence will take approximately four (4) minutes to complete and will check the operation of the CALL relay, and then all the odd numbered relays, then all the even numbered relays on the elevator control board(s). This test confirms communication between the 1818 circuit board and the elevator control board(s).

1. Press *** 7 6** and enter the four-digit master code _ _ _ _ (beep).
2. Enter the elevator shaft number _ (1, 2, 3 or 4) then press ***** (beep).

   Once the test starts, the CALL relay (LED ON) will activate, and then ALL odd numbered relays will activate, and then ALL even numbered relays will activate on the 1st elevator control board. After this sequence, if more than one elevator control board is connected, ALL odd numbered relays, and then ALL even numbered relays will activate on the 2nd elevator control board. After this sequence, ALL odd numbered relays, and then ALL even numbered relays will activate on the 3rd elevator control board. After this sequence, ALL odd numbered relays, and then ALL even numbered relays will activate on the 4th elevator control board. This sequence will repeat itself ten (10) times.
3. Once the test is complete (approximately 4 minutes), this programming sequence will automatically end itself.

5.1.4 Elevator Board / Floor Hardware Test

This testing sequence will allow you to check activation of individual relays on the elevator control board(s) and will confirm communication between the 1838 circuit board and the elevator control board(s).

1. Press *** 7 7** and enter the four-digit master code _ _ _ _ (beep).
2. Enter the elevator shaft number _ (1, 2, 3 or 4) then press ***** (beep).
3. Enter the two-digit floor number _ _ , then press ***** (beep).
4. The relay LED on the elevator control board that represents the floor number entered will turn ON for approximately 1 second.
5. To check other floor relays, repeat steps 2 and 3.
6. When complete with the testing, press **0 #** TOGETHER to end this testing sequence.

   NOTE: This program test sequence will automatically end itself if no keypad inputs are detected after approximately 30 seconds.

Refer to the Elevator Control board installation manual for more information on trouble shooting the elevator control boards.

5.2 ACCESSORIES

Card Readers	A variety of DKS, AWID and HID proximity readers are available for use with the 1838 controller. Most 26-bit card readers will interface with the 1838 controller.
RF Devices	RF devices provide remote access control for vehicular gates. Use DoorKing MicroPLUS™ wiegand receiver (P/N 8056-080) or DoorKing MicroCLIK wiegand receiver (P/N 8059-080) and corresponding transmitters.
PROXmtr™	DoorKing PROXmtr's provide both RF access control and proximity card access control in a single, compact package. Requires a MicroPLUS wiegand receiver and DKS, AWID or HID proximity card readers.
Digital Keypad	Provides a wiegand output when users enter their 5-digit PIN code. P/N 1815-050 and 1815-051.
Slave Keypad	Provides for use of 4-digit entry codes (P/N 1814-075).
Surge Suppressers	High voltage (115 V) suppresser. P/N 1878-076. Phone line suppresser. P/N 1878-077. Low voltage (28 V) suppresser. P/N 1878-078.
Telephone Test Set	Includes clips, cord and carrying case. P/N 1800-050.
Battery	12 volt .8 amp hour gel cell provides stand by power during power interruptions. P/N 1801-008.
Tracker Boards	Tracker expansion boards (P/N 2351-010) allow the system to operate up to sixteen individual doors or gates, provides door ajar and forced entry alarms, and can activate local and building alarm systems. Also allows DoorKing gate operators to report gate operator data and activity to the entry system.
RS-232 Cable	RS-232 cable with DB-9 connector on one end and wires on the other end. Use this cable to program the entry system from a PC using RS-232 communications instead of the modem. P/N 1818-040.
TCP/IP Kit	P/N 1830-175 – enables the 1838 system to send and receive data via the DKS Internet Server or a LAN.
Elevator Board	Elevator control boards (P/N 2348-010) provide control of up to four elevators, with each elevator having a maximum of 64 floors.
Small Enclosure	Provides a weather resistant lockable enclosure for a single Tracker™ expansion board.
Large Enclosure	Provides a weather resistant lockable enclosure for up to four (4) Tracker™ expansion boards and includes convenience outlets for four (4) accessory transformers.
Remote Call Station	Provides voice communication to a remote location via the telephone network. Available with a keypad (1838-120) or card reader (1838-121).

5.3 LOG TABLES

Complete the information in the tables on the following pages to maintain a record of the information that has been programmed into the access control system if the system IS NOT being programmed from a PC. If PC programming is being utilized, there is no reason to maintain these log sheets since the PC will maintain a complete record of the information that has been programmed.

Make copies of the user log sheet so that you have enough to complete a listing of all users and data. Enter the information as shown in the example below. DIR is the user's unique directory code and can be 1 to 4 digits (3.4.1). Enter the user's four-digit entry code (3.6.1) in the ENT field if they are used. Enter the user's unique device code (3.5.1) in the DEVICE field if access control devices (Transmitters, cards, etc.) are used. Enter the SEC LEVEL (Security Level), FL (Floor), and ER (Elevator Reference) numbers as required.

NAME	PHONE #	DIR	ENT	DEVICE	SEC LEVEL	FL	ER
Smith, John	765-0000	173	3812	04231	02	14	2

MASTER CODE (3.2.1)			

RELAY STRIKE TIME (3.3.1)	
RELAY 1	RELAY 2

TONE OPEN NUMBERS (3.3.3)	RELAY 1	RELAY 2
MOMENTARY ACTIVATION		
CONTINUOUS ACTIVATION		
RELEASE		
ACTIVATE 1 HOUR		

POSTAL SWITCH ACTIVATES (3.3.3)	
RELAY 1	RELAY 2

ENTRY CODE RANGES (3.7.3)	RELAY 1	RELAY 2
LOW BOUNDRY		
HIGH BOUNDRY		

NAME	PHONE NUMBER	DIR CODE	ENT CODE	DEVICE CODE	SEC LEVEL	FL	ER